

ANNUAL SOLID WASTE REPORT 1998

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RESOURCE PLANNING DIVISION,
RESOURCE MANAGEMENT BRANCH,
SEATTLE PUBLIC UTILITIES
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¹Data and analysis are subject to change.

OVERVIEW OF SEATTLE'S SOLID WASTE AND RECYCLING SYSTEM

In 1998, an estimated 813,000 tons of materials were generated in Seattle (Table 1). The City of Seattle managed about 47% or 386,000 tons of these materials. Of this, 142,000 tons were handled through the City's recycling programs, while 244,000 tons were disposed of through the City's garbage programs.

The City of Seattle offers four residential collection services: curbside recycling, apartment recycling, curbside yard waste, and garbage collection. The City also owns and operates two Recycling and Disposal Stations that accept garbage and yard waste. The stations also have drop boxes for a number of recyclable materials from self-haul customers. In addition, the City sponsors programs to encourage grass cycling and back yard composting of food waste and yard waste.

Outside of City programs, there were 214,000 tons of commercial garbage disposed and an estimated 213,000 tons of private (commercial and residential) recycling in Seattle during 1998. Commercial garbage was processed through the private stations Eastmont and Rabanco and long-hauled by train to Arlington, Oregon along with Seattle's residential garbage. Private recycling includes both commercial recycling programs and residential recycling taken on by Seattle residents independently of the City's programs.

| TABLE 1: Generation and Recycling in Seattle | 1988 | 1993 | 1998 |
|---|----------------|----------------|----------------|
| City Sponsored Recycling Programs | 31,276 | 122,493 | 142,142 |
| City Garbage Programs | 267,381 | 229,653 | 243,953 |
| Estimated Private Recycling ² | 153,084 | 191,256 | 213,000 |
| Commercial Garbage | 198,174 | 203,941 | 213,646 |
| Estimated Total Generation | 649,915 | 747,343 | 812,741 |

The next section addresses how Seattle as a whole is doing as measured against the 2010 recycling goal. The following section provides a discussion of the status of the major solid waste and recycling programs directly under City management. The last section gives a brief overview of the tonnage and trip activity at the City's Recycling and Disposal Stations. More detailed information about commercial garbage can be found in Seattle Public Utilities quarterly garbage reports³. Information on private recycling is

²Based on 1995 recycling data from Department of Ecology.

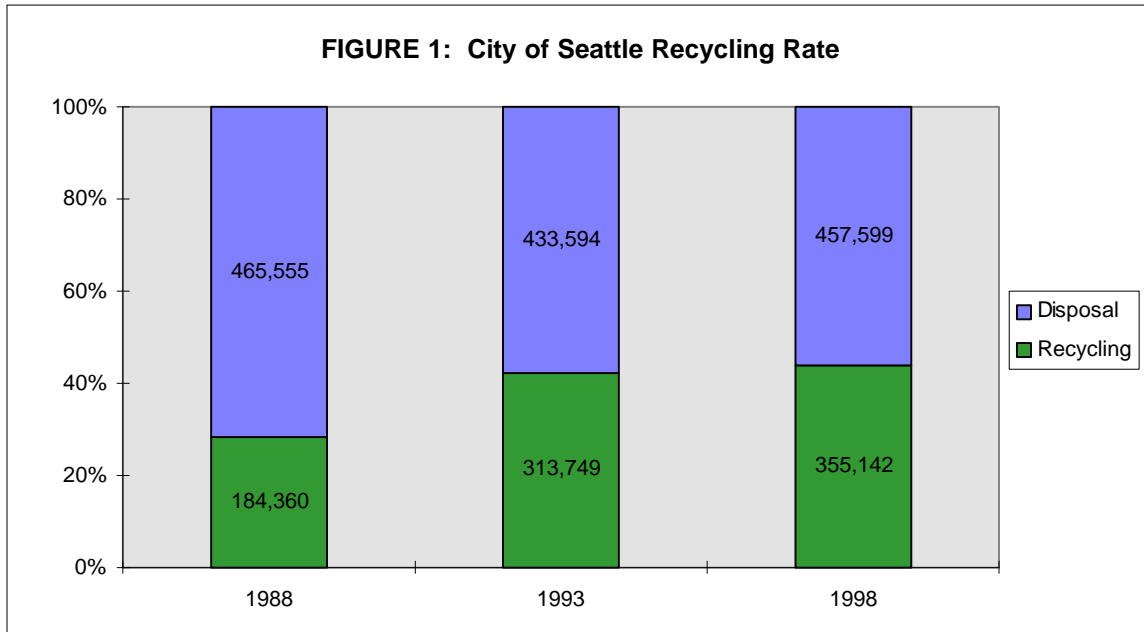
³Seattle Public Utilities publishes monthly and quarterly solid waste and recycling reports on the web-site at: www.ci.seattle.us/util/planning/swp.

published annually by Washington State Department of Ecology based on a survey of recycling businesses.⁴

⁴Washington State Department of Ecology. 1998. Solid Waste in Washington State. Sixth Annual Report. Publication #98-500.

TOWARDS 60% RECYCLING IN 2008

Seattle's 1998 recycling rate is estimated to be 44%. In comparison, the recycling rate was 42% in 1993 and 28% in 1988 (Figure 1).



The 1998 Solid Waste Plan: *On the Path To Sustainability* sets as a goal to achieve an overall recycling rate of 60% by 2008. A little less than half of the recycling is expected to come from City sponsored programs. The rest is private recycling taken on by commercial businesses and residential customers outside of the City's programs. Figure 2 illustrates this.

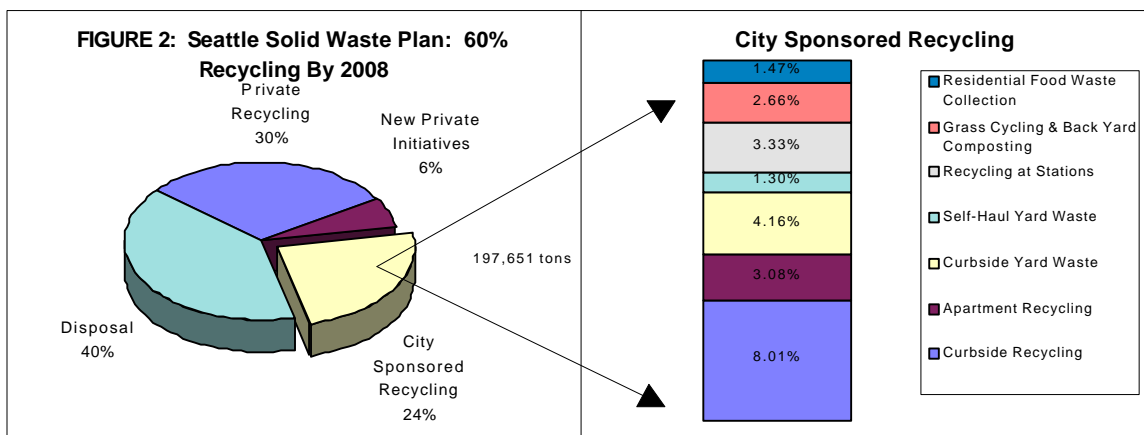
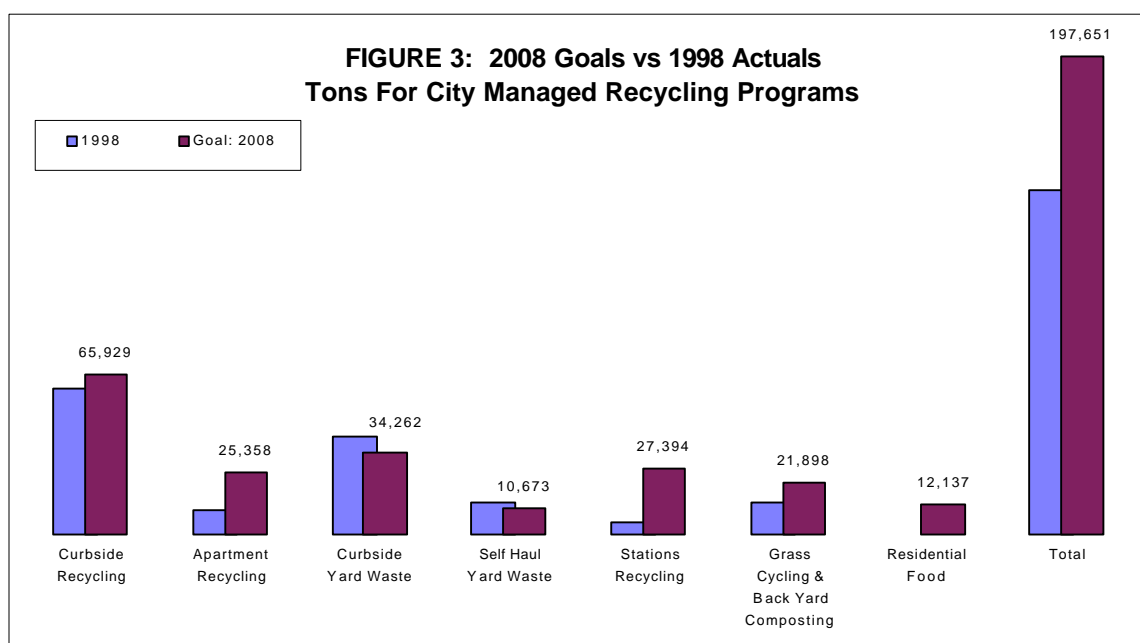


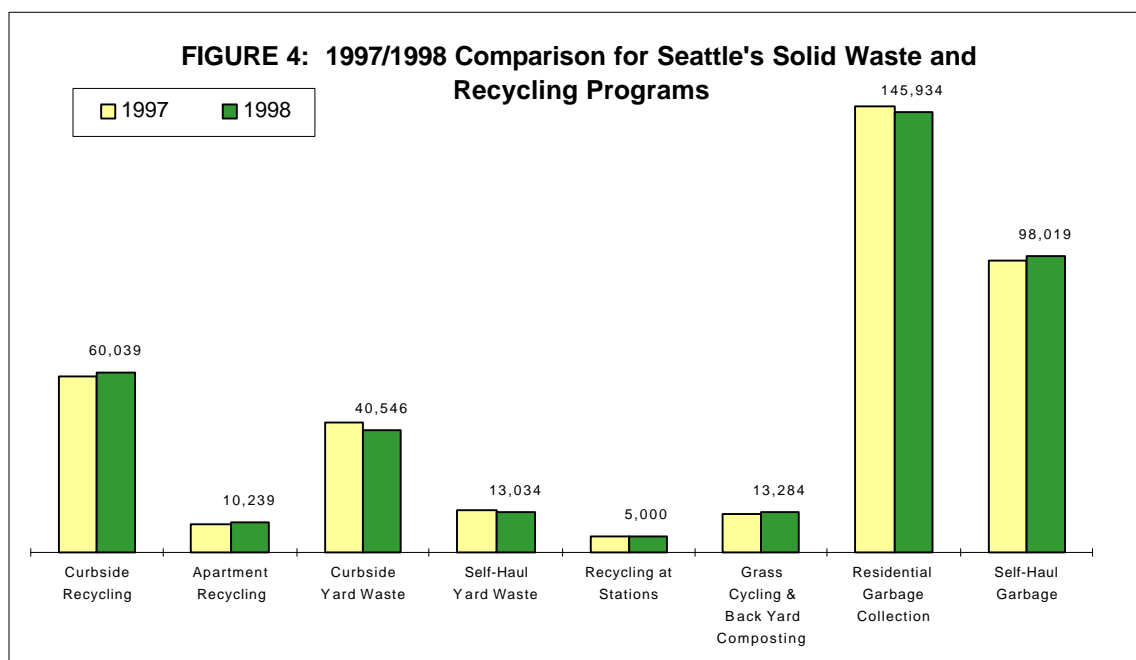
Figure 3 shows how City sponsored recycling programs performed in 1998 versus how they are projected to perform in year 2008. Overall, the programs are about 70% towards the goals for year 2008. Notice that the chart includes a residential food waste collection program expected to start in year 2000 and result in about 12,000 tons of recycling in 2008. The large increase in recycling at the City's Recycling and Disposal Stations is a projected outcome of additional recycling associated with a planned recycling center at the South Station. The projected increase in apartment recycling tons is a combined effect of an intensified effort to get apartment buildings signed up and apartment units to participate more.



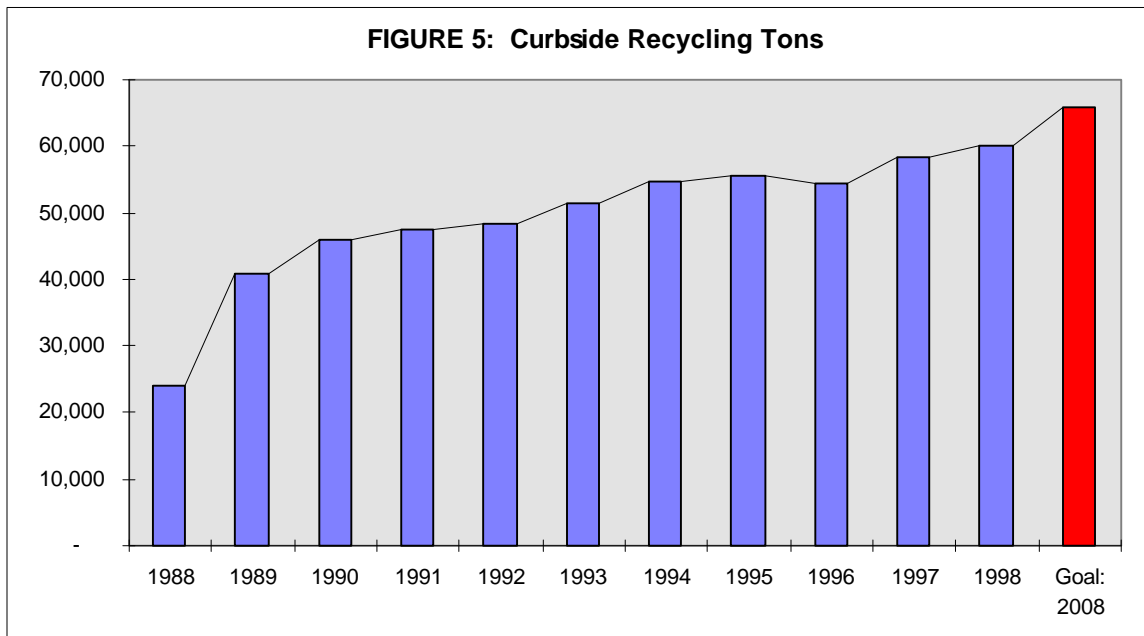
STATUS OF MAJOR PROGRAMS DIRECTLY UNDER CITY MANAGEMENT

In 1998, the City programs handled a total of 386,095 tons of materials. This was about the same amount as in 1997. Of these materials, 142,142 tons were handled through the recycling programs while 243,953 tons were landfilled through the garbage programs. Table 2 provides tons for each program and the percentage change from 1997. Figure 4 shows the 1997/1998 comparisons graphically.

| TABLE 2: 1998 Tons by City Sponsored Program | | 97-98 Change |
|---|----------------|---------------------|
| Curbside Recycling | 60,039 | + 3% |
| Apartment Recycling | 10,239 | + 11% |
| Curbside Yard Waste | 40,546 | - 6% |
| Self-Haul Yard Waste | 13,034 | - 8% |
| Station Recycling (including wood waste and appliances) | est. 5,000 | 0% |
| Grass Cycling & Back-Yard Composting | est. 13,284 | + 7% |
| Residential Garbage Collection | 145,934 | - 1% |
| Self-Haul Garbage | 98,019 | + 1% |
| Total | 386,095 | 0% |



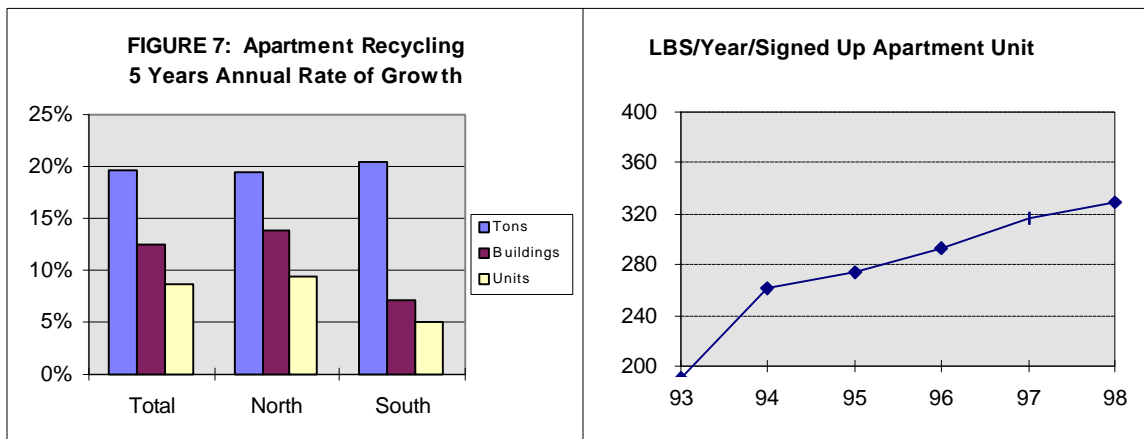
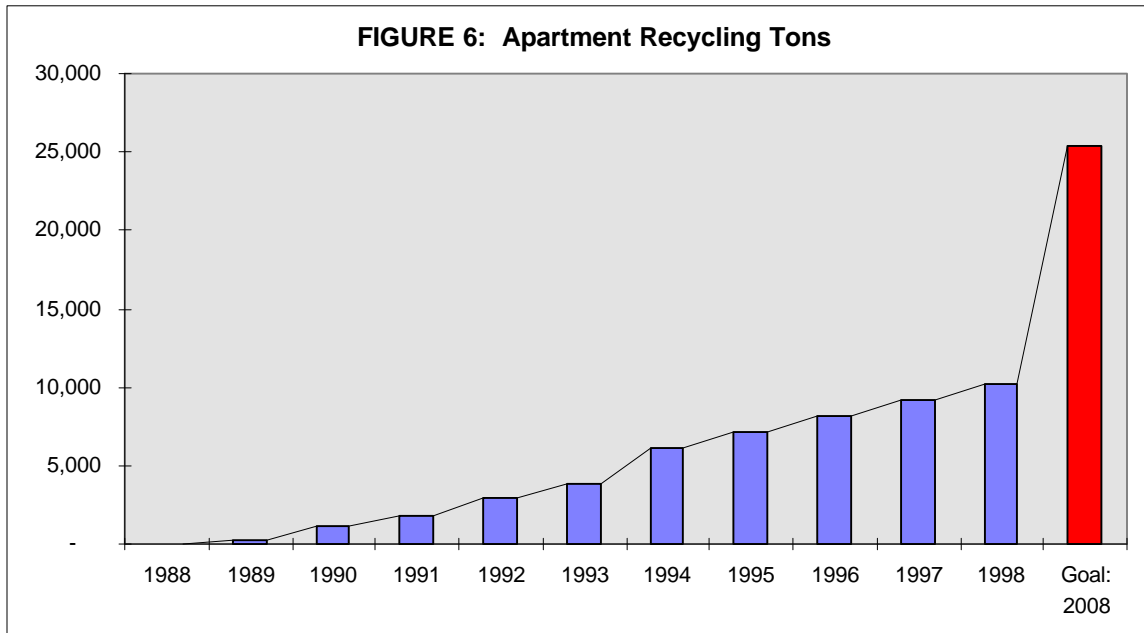
Curbside Recycling. 60,039 tons were collected in 1998. This was an increase of 3% from 1997, and is the first year curbside recycling has exceeded 60,000 tons. The annual rate of growth over the last five years was 3% (Figure 5). This growth can be explained in part by a similar growth in number of accounts signed up for curbside recycling.⁵ Currently more than 90% of eligible households are estimated to be participating in the program. The remainder of the tonnage growth could be explained by an increase in the amount of recycling per signed up account.⁶ There are several possible explanations for why there may be more recycling in general. Firstly, the last five years have been a period of great regional economic growth and stability. Generally in such times, people tend to spend more money towards the purchase of consumption goods. Subsequently, there is more material to be recycled. A second possible explanation is that people may be recycling more intensely. This is supported by the comparatively low growth in residential garbage collection over the same period.



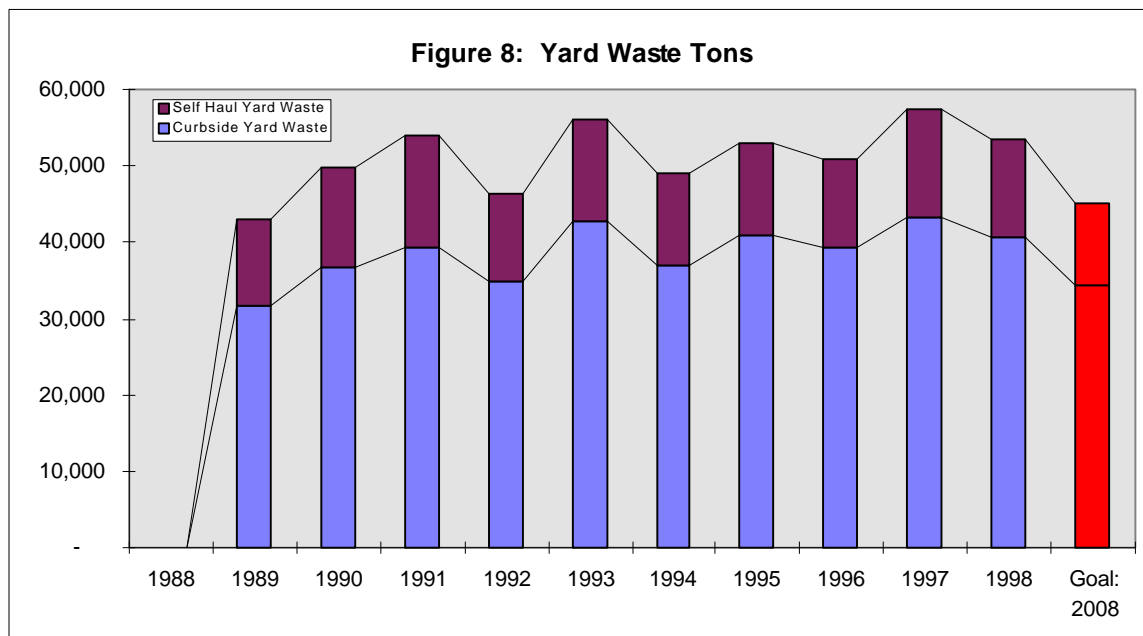
⁵Recent sign up data is only available for Recycle Seattle, the contractor serving the south end (south of the Ship Canal) of the City. For the south end, tons have grown 2.97% and sign ups have increased 1.78% over the last five years.

⁶In the South end, pounds per signed up account went from 721 lbs in 1994 to 765 in 1998.

Apartment Recycling. 10,239 tons were collected in 1998 (Figure 6). Tons increased 11% between 1997 and 1998, while the annual rate of growth over the last five years was 20% (Figure 7). 1998 was the first year ever that apartment recycling exceeded 10,000 tons. Currently, of the eligible buildings, 48% are signed up for the program. These buildings account for about 60% of the eligible apartment units. The growth in tons is due in part to growth in number of apartment buildings signed up for the program. Over the last five years, the number of apartment buildings on apartment recycling grew at a 13% annual rate of growth. At the same time the number of units grew 9% annually, implying that on average smaller buildings are now signing up. Since the growth in sign-ups is less than the overall tonnage growth, the implication is either that existing participants are recycling more or buildings previously signed up are experiencing increasing participation by units in the building.



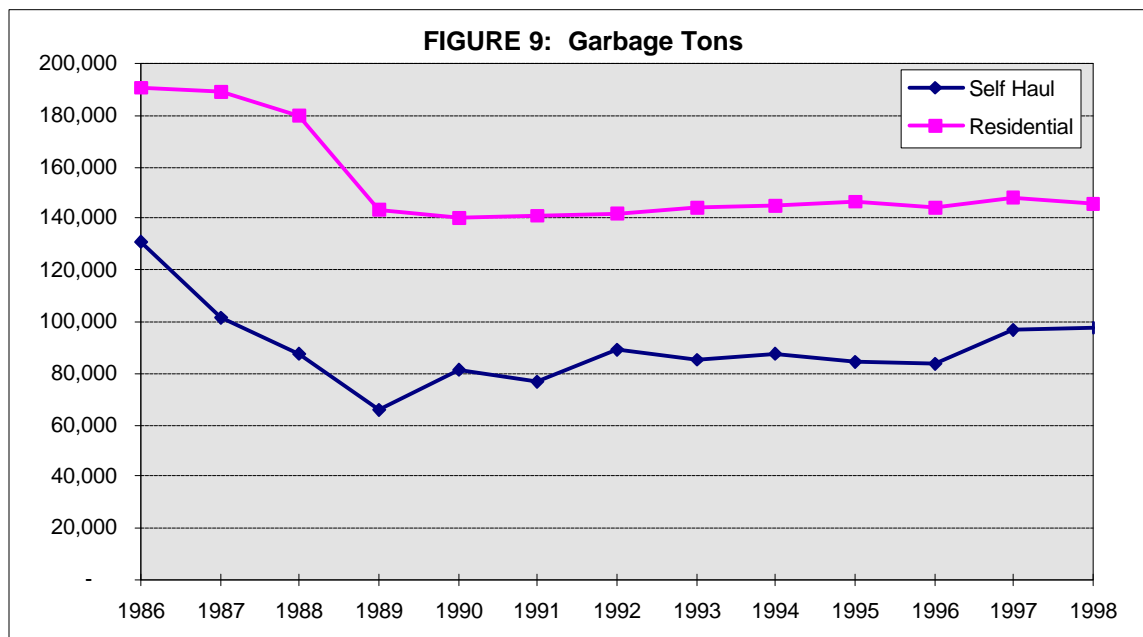
Yard Waste. 53,580 tons of Seattle yard waste were composted at Cedar Grove in 1998 (Figure 8). This was a decrease of 6% compared to 1997, which had above normal precipitation.⁷ Over the last five years, the average annual amount of yard waste was 52,700 tons.⁸ In 1998, 76% or 40,546 tons were collected at the curb while 13,034 tons were self hauled to the City Recycling and Disposal stations. Approximately 58% of eligible accounts are currently signed up for curbside yard waste collection.



⁷Figure 8 shows the variation in annual tonnage. This variation is due in large to varying weather conditions. 1997 and 1993 had above normal precipitation while 1992 had below normal precipitation. There were also a lawn watering restriction in place in 1992.

⁸In Figure 8, the goal is below current levels because backyard composting and grass cycling is expected to divert tonnage from these programs.

Garbage. 145,934 tons were collected from the residential sector in 1998 (Figure 9). An estimated 58% of this comes from variable can customers (generally, 1-4plexes) and 42% from dumpster accounts (generally, 5+ units).⁹ This was a decrease of 1% from 1997. Generally, residential garbage has remained stable over the last five years with an average of 145,900 tons per year. The growth rate during this period was about 0.4% per year. This is in line with the growth in subscription to residential garbage collection.¹⁰ In addition to the collection tons, 98,019 tons of garbage were self hauled to the City stations during 1998 (Figure 9). This was an increase of 1% from last year. Over the last five years, self-haul garbage has increased at an annual growth rate of 9%. Potential factors explaining this growth are positive economic trends, such as increased levels of construction activity, as well as a general increase in the population of the Seattle area. Another potentially contributing factor is the increase in rates at the King County transfer stations.¹¹ As the City stations are substitutes for the County's stations, some customers that traditionally brought their garbage to the County may have switched to the City. Lastly, part of the sharp increase in self-haul tonnage from 1996 to 1997 can be explained by the December 1996 storm. Because the storm caused the stations to close operations temporarily, a significant amount of tons that would normally have come to the stations in 1996 ended up being hauled to the stations in January 1997.

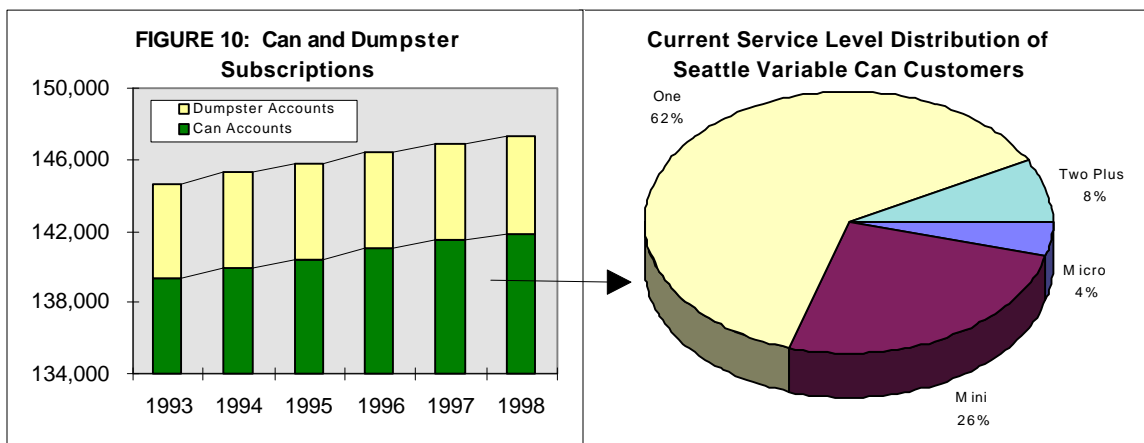


⁹Based on 1996 GIS analysis of residential collection route areas.

¹⁰ The overall number of premises (households) with garbage collection increased 0.6% annually over the same time period.

¹¹The County raised its garbage rates effective April 1, 1997.

Subscription. At the end of 1998, about 142,100 accounts were subscribing to variable can rate service and 5,400 accounts were subscribing to dumpster service. This constitutes only a slight increase in total number of garbage subscription accounts from 1997. Over the last five years, the number of can accounts and dumpster accounts grew at an annual rate of less than 0.5%. Currently, of the residential customers on can service, 4% are signed up for the micro can, 26% for the mini can, 62% for one can, and 8% are signed up for two or more cans (Figure 10). In relative terms, there has been a small movement away from mini and micro cans towards one can and two or more can subscription.



RECYCLING AND DISPOSAL STATIONS

The City Recycling and Disposal Stations processed approximately 347,000 customer transactions in 1998. This was an increase of 4% compared to 1997. 74% or 256,000 transactions were self-haul customers and contractors bringing in garbage. 16% or 57,000 transactions were yard waste transactions. The remaining 10% or 34,000 transactions were wood waste (1%), recyclables (7%), and appliances (2%). Total tons processed through the stations decreased 2% to approximately 289,000 tons, including an estimated 5,000 tons of recyclables and appliances. 84% or 242,000 tons of this was garbage and 14% or 41,000 tons were yard waste. The remaining 2% were wood waste, recyclables, and appliances. The 1998 distribution of tons and trips by material is illustrated in Figure 11.

